

WHAT IS CLAIMED IS:

1. A radiation detector comprising a housing; a substantially cylindrical scintillation crystal and a photomultiplier tube assembly supported in said housing; and a plurality of elongated non-metallic springs extending along said crystal and said photomultiplier tube assembly, radially between said crystal and photomultiplier tube assembly and said housing.

2. The radiation detector of claim 1 wherein said springs are composed of plastic material.

3. The radiation detector of claim 1 wherein said springs are substantially flat and composed of ceramic material.

4. The radiation detector of claim 1 wherein said springs extend axially along at least part of said crystal and photomultiplier tube assembly.

5. The radiation detector of claim 1 wherein said springs are under flexion in a direction substantially parallel to a longitudinal axis of said detector.

6. The radiation detector of claim 1 wherein said housing is also cylindrical, and at least one resilient member is located at one end of said crystal, axially between an end wall of said housing and said one end of said crystal.

7. The radiation detector of claim 6 wherein said at least one resilient member comprises at least one annular wave spring.

8. The radiation detector of claim 1 wherein said photomultiplier tube is substantially round in cross section, with relatively larger and smaller diameter portions connected by a taper.

9. The radiation detector of claim 1 wherein an electronics package is coupled to a distal end of said photomultiplier tube.

10. The radiation detector of claim 7 wherein compression plates are located on opposite axial sides of said at least one spring.

11. The radiation detector of claim 7 wherein said at least one spring comprises an annular wave spring.

12. The radiation detector of claim 1 wherein said housing includes a substantially cylindrical cap telescopically joined at one end thereof to a cylindrical shield portion of said housing.

13. A radiation detector comprising a housing, a substantially cylindrical crystal and a photomultiplier tube assembly supported in said housing; a plurality of elongated plastic or ceramic springs circumferentially spaced about and extending along said crystal and said photomultiplier tube assembly, radially between said crystal and photomultiplier tube assembly and said housing; and at least one resilient member located at one end of said crystal, axially between an end wall of said housing and said crystal.

14. The radiation detector of claim 13 wherein said at least one resilient member comprises an annular wave spring.

15. The radiation detector of claim 13 wherein said photomultiplier tube is formed with relatively larger and smaller diameter portions connected by a taper.

16. The radiation detector of claim 15 wherein an electronics package is coupled to a distal end of said photomultiplier tube.

17. The radiation detector of claim 14 wherein a compression plate is located axially between said annular wave spring and said crystal.

18. The radiation detector of claim 13 wherein said crystal is wrapped in a reflective material.

19. The radiation detector of claim 13 wherein said housing includes a substantially cylindrical cap telescopically joined at one open end thereof to a cylindrical shield portion of said housing.

20. A radiation detector comprising a housing, a substantially cylindrical crystal and a photomultiplier tube assembly supported in said housing; ceramic radial suspension means located radially between said crystal and photomultiplier tube assembly and said housing; and axial suspension means located at one end of said crystal, axially between an end wall of said housing and said crystal.

21. A scintillation crystal package comprising a housing; a substantially cylindrical scintillation crystal supported in said housing; and a plurality of elongated non-metallic springs extending along said crystal, radially between said crystal and said housing.

22. The scintillation crystal package of claim 21 wherein said springs are composed of plastic material.

23. The scintillation crystal package of claim 21 wherein said springs are substantially flat and composed of ceramic material.

24. The scintillation crystal package of claim 21 wherein said housing is also cylindrical, and at least one resilient member is located at one end of said crystal, axially between an end wall of said housing and said one end of said crystal.